



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
Montana State Office  
5001 Southgate Drive, P.O. Box 36800  
Billings, Montana 59107-6800  
<http://www.mt.blm.gov/>

In Reply To:

SDR-922-02-05  
3160 (922.WL)

July 19, 2002

## REGISTERED-RETURN RECEIPT REQUESTED

### DECISION

Mr. Michael C. Erickson  
K2 America Corp.  
Suite 500, 435 - 4<sup>th</sup> Avenue S.W.  
Calagary, Alberta T2P 3A8

SDR No 922-02-05

### **AFFIRMED IN PART, VACATED IN PART**

K2 America Corp. (K2) requests a State Director Review (SDR) in accordance with 43 CFR 3165.3(b) of the June 6, 2002, written notice of incident of noncompliance issued by the Great Falls Oil and Gas Field Station (GFFS) Supervisor regarding Well No. 3-5 Atlantic, NENW, Sec. 5, T. 31 N., R. 5 W., Tribal Lease No. 14-20-0251-7442, Pondera County, Montana. The SDR was considered timely filed on July 9, 2002, in accordance with 43 CFR 3165.3(b) and was assigned number SDR-922-02-05.

### **BACKGROUND**

The No. 3-5 Atlantic was drilled in November 1999. It was completed in the Cut Bank Sand Formation, but commercial production was not established. In a letter to K2 dated January 16, 2001, the GFFS identified 21 wells, including the No. 3-5, as being shut-in or temporarily abandoned. The letter requested that K2 return the wells to production or submit their plans to plug and abandon the wells. K2 requested permission to leave the wells shut-in for 24 months while they evaluated the feasibility of the productive nature of the Madison Formation within the area. K2 was ordered to submit a progress summary report regarding the regional study on the Madison Formation, and a deadline to either deepen some wells to the Madison, return the wells to production, or plug and abandon the wells. K2 requested an SDR of this order. In a verbal presentation during the SDR process, K2 talked about the possibility of production from the Bow Islands Sands in this area. The SDR decision, issued June 28, 2001, modified the order and required K2 to submit a report on their evaluation of the Madison Formation within 12 months.

On October 17, 2001, a Sundry Notice filed by K2 requesting approval to recompleate this well from the Cut Bank Formation to the Bow Island Sands was approved. A Sundry Notice dated December 12, 2001, was filed by K2 requesting approval to CO<sub>2</sub> fracture stimulate the Bow Island. On March 29, 2002, the GFFS Supervisor issued a written order (Enclosure 1) requiring K2 to submit certain information regarding the well. K2 submitted a sundry notice (Enclosure 2) dated April 30, 2002, documenting the work performed on the well. Information on the Sundry Notice stated that the well failed to test. K2 stated that, "Over the next year, due to hydrates, the well will be monitored until all CO<sub>2</sub> is recovered. Then the well will be put on production when the gathering system is built, in the fall of 2002." No recompleation report on Form 3160-4 showing the new producing interval in the Bow Island Formation and production test information was submitted.

On June 6, 2002, the GFFS sent a Written Notice of Incident of Noncompliance (Enclosure 3) to K2 stating that K2 was in violation of the written order of March 29, 2002. The GFFS letter disagreed with K2's assessment that hydrates were present in the wellbore and provided technical data to support that position. The letter requested that K2 perform the following:

- Conduct a flow test on the well to ascertain if the well is capable of producing in paying quantities.
  - Conduct a down-hole temperature survey if you still believe that hydrate formation is preventing the well from producing in paying quantities.
  - Submit a recompletion report on Form 3160-4 showing the new producing intervals in the Bow Island Formation and production test information.
  - Ensure that the plug-back depth is indicated and the tubing, producing interval, perforation, and stimulation records are filled out.
  - Ensure that the test information is complete for test date, hours tested, producing rates, flowing pressures, shut-in pressures, 24-hour flow rate, and the current status of the well.
  - Provide copies of any third-party flow test results on the well as referenced in your December 28, 2001, news release.
- Submit a notice of intent to abandon on Form 3160-5 if the well is not capable of producing in paying quantities.
- If it is your intention to perform additional work on the well, please provide a sundry notice for that work and your time schedule for initiating that work in lieu of immediate plugging operations.

On July 9, 2002, K2 filed an SDR request.

#### K2 ARGUMENTS

K2 argues that their technical evaluation by qualified experts on the past stimulation of the No. 3-5 Atlantic has determined that the use of 100 percent liquid CO<sub>2</sub> as a fracturing agent experienced unexpected hydrate problems within the low pressure, low temperature reservoir of the Bow Island. K2 questions some of the technical information in the GFFS letter of June 6. K2 states that it is their belief that continued monitoring of the pressures, with intermittent flow-backs, will eventually free the reservoir of the CO<sub>2</sub> and enable a true flow test of natural gas.

K2 also states that an additional four Bow Island Reservoirs exist within the depths of 1650 to 2150 feet. Therefore, being ordered to plug and abandon the Atlantic No. 3-5 would, in the operator's view, constitute premature abandonment of potential productive zones. K2 has begun work on Multi-Zone fracture stimulations to allow for all Bow Island Zones present to be completed within the well bore. Once these Multi-Zone fracs are proven successful, K2 views the Atlantic No. 3-5 as a strong candidate for such a completion.

#### DISCUSSION

The No. 3-5 Atlantic well is located on Tribal Lease No. 14-20-0251-7442. The lease is held by production from other wells on the lease. Therefore, the issues regarding this well do not affect the status of the lease.

The June 6 letter from the GFFS focused on their opinion that the existence of hydrates in this well is very unlikely, and that the well is not capable of producing in paying quantities. K2, in their SDR request, argues that hydrates are present in the well. Whether hydrates are or are not present in

the well is not the main issue here. The issue is whether K2 is diligently pursuing operations to establish production in paying quantities from this well. K2 stated in their April 30 Sundry Notice that they plan to monitor the well until all CO<sub>2</sub> is recovered. The well will be put on production when the gathering system is built, in the fall of 2002. K2 further states in their SDR request that they believe that continued monitoring of the pressures, with intermittent flow-backs, will enable a true flow test of natural gas. The continued monitoring of the well and conducting intermittent flow-backs, demonstrate that K2 is being diligent in pursuing production in paying quantities. It is reasonable to allow K2 additional time to conduct flow-backs as long as K2 remains diligent.

K2 offers new information in their SDR request that it appears has not been presented to the GFFS. K2 states that they believe additional reserves exist in other Bow Island Sands in this well, and that they are working on Multi-Zone fracture stimulations to allow for all Bow Island Zones present to be completed within the well bore. This information appears to meet the last requirement in the June 6 GFFS letter which states, if it is your intention to perform additional work on the well, please provide a sundry notice for that work and your time schedule for initiating that work in lieu of immediate plugging operations.

#### DECISION

The request of the GFFS Supervisor is affirmed in part

K2 is required to submit a recompletion report on Form 3160-4 as requested. K2 made no argument as to why they should not submit Form 3160-4. Therefore, as requested, K2 must submit the following to the GFFS within 20 days of receipt of this decision:

- Submit a recompletion report on Form 3160-4 showing the new producing intervals in the Bow Island Formation and production test information.
- Ensure that the plug-back depth is indicated and the tubing, producing interval, perforation, and stimulation records are filled out.
- Ensure that the test information is complete for test date, hours tested, producing rates, flowing pressures, shut-in pressures, 24-hour flow rate, and the current status of the well.

K2 must also submit their plans to perform additional work on the well in lieu of immediate plugging operations.

- The plans must include detailed information on their monitoring and intermittent flow-backs and time frames for conducting the flow-backs. The operations must be diligently conducted and within a reasonable time frame. A Sundry Notice with this information must be submitted to the GFFS within 20 days of receipt of this decision.
- If the well proves to be unproductive, and a Multi-Zone fracture stimulation is planned to develop possible reserves in other Bow Island Sands from this well, K2 must submit their plans to perform this work. A Sundry Notice with this information including time frames for conducting the operations must be submitted.

The request of the GFFS Supervisor is vacated in part

K2 is not required to perform the following items required in the GFFS June 6 letter.

Conduct a flow test on the well to ascertain if the well is capable of producing in paying quantities.

Conduct a down-hole temperature survey if you still believe that hydrate formation is preventing the well from producing in paying quantities.

- Provide copies of any third-party flow test results on the well as referenced in your December 28, 2001 news release.
- Submit a notice of intent to abandon on Form 3160-5.

This Decision may be appealed to the Board of Land Appeals Office of the Secretary, in accordance with the regulations contained in 43 CFR 4.400 and Form 1842-1 (Enclosure 4). If an appeal is taken, a Notice of Appeal must be filed in this office at the aforementioned address within 30 days from receipt of this decision. A copy of the Notice of Appeal and of any statement of reasons, written arguments, or briefs must also be served on the Office of the Solicitor at the address shown on Form 1842-1. It is also requested that a copy of any statement of reasons, written arguments, or briefs be sent to this office. The appellant has the burden of showing that the Decision appealed from, is in error.

If you wish to file a Petition for a Stay of this Decision, pursuant to 43 CFR 3165.4(c), the Petition must accompany your Notice of Appeal. A Petition for a Stay is required to show sufficient justification based on the standards listed below. Copies of the Notice of Appeal and Petition for a Stay must also be submitted to each party named in this Decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

#### Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) The relative harm to the parties if the stay is granted or denied,
- (2) The likelihood of the appellant's success on the merits,
- (3) The likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) Whether the public interest favors granting the stay.

/s/ Howard A. Lemm, Acting  
for  
Thomas P. Lonnie  
Deputy State Director  
Division of Resources

#### 4 Enclosures

- 1-GFFS letter of March 29, 2002 (2 pp)
- 2-K2 Sundry Notice dated April 30, 2002 (1 p)
- 3-GFFS letter of June 6, 2002 (3 pp)
- 4-Form 1842-1 (1 p)

cc: (w/o encls.)  
WO (310), LS, Rm. 406  
All BLM Offices  
Great Falls Oil and Gas Field Station  
Miles City Field Office  
North Dakota Field Office  
922:WLambert:rkcd:7/17/02:x5328:WLK2 SDR 02-05 Decision2